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This document contains a copy of the slides and corresponding notes from the briefing presented by Col. Joseph S. Greene, Director, SJPO, at the SIGAda meeting in Charleston, WV in November, 1986. It details the new direction being taken by the STARS program.

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SOFTWARE

TECHNOLOGY FOR

ADAPTABLE,

RELIABLE

SYSTEMS

87 1 15 093

COVER SLIDE: NEW STARS

GOOD MORNING:

STARS IS THE NAME OF A DEPARTMENT OF DEFENSE PROGRAM. THE
STARS PROGRAM IS ONE OF THREE PROGRAMS FORMING THE DoD SOFTWARE
INITIATIVE THAT WAS STARTED IN 1981 TO CONSOLIDATE AND EXTEND
THE PROGRESS MADE BY THE Ada PROJECT DURING THE PREVIOUS DECADE.

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THE DOD SOFTWARE INITIATIVE

- Ada

- STARS

- SEI

<u>SLIDE 1</u>: DoD SOFTWARE INITIATIVE

THE DoD SOFTWARE INITIATIVE IS MANAGED BY THREE SEPARATE
ORGANIZATIONS: THE STARS JOINT PROGRAM OFFICE, THE Ada JOINT
PROGRAM OFFICE, AND THE SOFTWARE ENGINEERING INSTITUTE (SEI).
EACH PROVIDES A UNIQUE CONTRIBUTION.

THE Ada JOINT PROGRAM OFFICE IS RESPONSIBLE FOR THE Ada
LANGUAGE, AND RELATED STANDARDS AND POLICIES. THE AJPO ALSO
MANAGES THE Ada COMPILER VALIDATION PROGRAM. THROUGH THESE AND
OTHER RELATED ACTIVITIES, THE Ada JPO PROVIDES THE TECHNICAL
BASE FOR THE ENTIRE SOFTWARE INITIATIVE. BUT A LANGUAGE BY
ITSELF IS ONLY A BEGINNING.

STARS WILL BUILD UPON THE OPPORTUNITIES MADE POSSIBLE BY THE
Ada LANGUAGE TO INVENT A NEW WAY OF DOING SOFTWARE ENGINEERING.
THE MISSION OF STARS IS TO CHANGE THE STATE-OF-THE-ART IN
SOFTWARE ENGINEERING. DURING THE PAST NINE MONTHS THE STARS
PROGRAM HAS BEEN COMPLETELY RESTRUCTURED UNDER THE OVERSIGHT OFF
THE STARS EXECUTIVE COMMITTEE. NEW TECHNICAL AND MANAGEMENT
PLANS WERE APPROVED IN AUGUST.

THE SOFTWARE ENGINEERING INSTITUTE TRANSITIONS NEW
TECHNOLOGY INTO USE, THEREBY CHANGING THE STATE-OF-PRACTICE.
THE STATE-OF-PRACTICE TENDS TO LAG AS MUCH AS FIFTEEN YEARS
BEHIND THE STATE-OF-THE-ART. THE SEI's MISSION IS TO REDUCE
THAT TIME LAG. STARS AND SEI ARE COMMITTED TO BUILD ON FOSTER
THE USE OF Ada, BUT THEIR MISSIONS ARE VERY DIFFERENT FROM EACH
OTHER, AND FROM THAT OF THE AJPO.

OVERVIEW

- ADAPTABLE, RELIABLE SYSTEMS

- SOFTWARE TECHNOLOGY

- BUSINESS OPPORTUNITIES

SLIDE 2: OVERVIEW

THE STARS PROGRAM NAME INCLUDES THE PREPOSITION "FOR". THAT
LITTLE WORD DECLARES THE PURPOSE OF STARS. STARS BUILDS
SOFTWARE SUPPORT FOR "ADAPTABLE, RELIABLE SYSTEMS." SUCH
SYSTEMS DO NOT EXIST WIDELY TODAY. THAT IS VERY SIGNIFICANT.
STARS WILL SEEK WAYS TO REDUCE THE COST OF SOFTWARE, BUT MORE
IMPORTANTLY, STARS WILL LEARN HOW TO BUILD CAPABILITIES THAT ARE
NOT AFFORDABLE WITH TODAY'S TECHNOLOGY -- CAPABILITIES THAT WILL
BE DECISIVE IN FUTURE WAR FIGHTING SYSTEMS.

NEXT, I WANT TO COVER THREE TOPICS. I WILL PRESENT A ONE
EXAMPLE TO ILLUSTRATE FUTURE "ADAPTABLE, RELIABLE SYSTEMS." I
WILL EXPLAIN WHAT STARS WILL DO TO MAKE SUCH SYSTEMS POSSIBLE
AND FINALLY, I WANT TO TELL YOU HOW YOU CAN HELP STARS.

FIRST, AN EXAMPLE TO SHOW WHY WE NEED ADAPTABLE, RELIABLE
SYSTEMS.
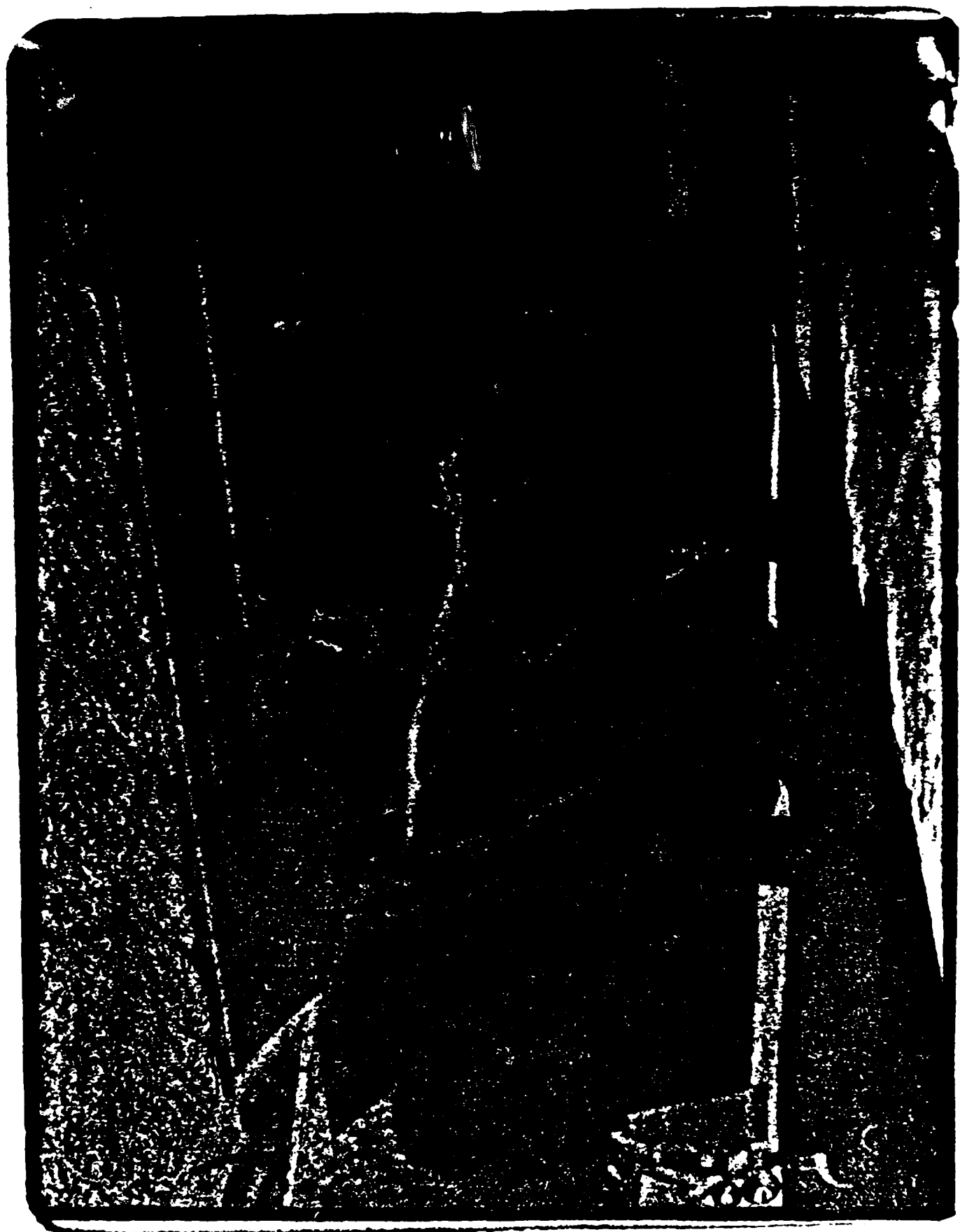
SLIDE 3: ADAPTABLE, RELIABLE SYSTEMS

ABOUT 3 1/2 YEARS AGO AN F-15 AIRCRAFT WAS ENGAGED IN
DISSIMILAR AIR COMBAT MANEUVERS. AS THE F-15 ENTERED A RIGHT
TURN ANOTHER AIRCRAFT CAME FROM BELOW, HIT THE F-15 AND SEVERED
MUCH OF ITS RIGHT WING. THE IMPACT STARTED THE F-15 INTO A
SPIN. THE PILOT IMMEDIATELY WENT INTO FULL AFTERBURNER WHICH
RESTORED A STABLE ATTITUDE. A LEVEL SENSOR SHUT OFF THE
HYDRAULICS TO THE SEVERED WING, PRESERVING CONTROLS. THE PILOT
RESET THE AUGMENTATION SYSTEM TO GIVE FULL CONTROL OVER THE TAIL
SURFACES, AND LANDED AT 280 KNOTS TOUCHDOWN SPEED. THE
ARRESTING WIRE RIPPED THE TAIL HOOK OFF THE AIRCRAFT,
DISSIPATING ENOUGH AIRSPEED TO PERMIT A SAFE STOP. THE
REPEATABILITY OF WHAT WAS DONE MANUALLY BY THE PILOT HAS
STIMULATED AIR FORCE INTEREST IN RECONFIGURABLE FLIGHT CONTROL
SYSTEMS TO MAINTAIN OPERABILITY.

ADAPTABILITY ALSO HAS IMPLICATIONS FOR RELIABILITY. IF
RECONFIGURABLE FLIGHT CONTROL CAN BE MADE TO WORK IN REAL TIME
UNDER SEVERE CATASTROPHIC CONDITIONS, IT MAY BE POSSIBLE UNDER
MORE BENIGN CONDITIONS, SUCH AS THE MALFUNCTION OF A SINGLE
CONTROL SURFACE, TO RELAX CURRENT RELIABILITY REQUIREMENTS AND
REDUCE THE LEVELS OF REDUNDANCY NEEDED IN FLIGHT CONTROL
ELECTRONICS AND HYDRAULIC ACTUATORS, THEREBY SIMPLIFYING THE
HARDWARE AND INCREASING THE OVERALL MEAN TIME BETWEEN SYSTEM
FAILURE. THAT IDEA SUGGESTS ONE WAY THAT SYSTEM RELIABILITY
COULD BE IMPROVED BY SYSTEM ADAPTABILITY.

RECONFIGURABLE CONTROL SYSTEMS COULD ALSO IMPROVE COMMERCIAL
FLIGHT SAFETY.

FOR EXAMPLE, A FEW YEARS AGO AN ENGINE BROKE LOOSE FROM A
DC-10 DURING TAKE-OFF FROM CHICAGO. SUBSEQUENT COMPUTER
ANALYSIS AND PILOT SIMULATOR EXERCISES SUPPORT THE VIEW THAT THE
DC-10 HAD SUFFICIENT REMAINING POWER AND CONTROL TO HAVE
PREVENTED THE CRASH THAT TOOK THE LIVES OF 240 PEOPLE.

REFERENCE "IT DOESN'T MATTER WHERE YOU SIT"

FUTURE WEAPON SYSTEMS

REQUIRE:

- ADAPTABILITY AND RELIABILITY

- NEW AND ENHANCED CAPABILITIES

- VERY LARGE SOFTWARE SYSTEMS

<u>SLIDE 4:</u> FUTURE WEAPONS SYSTEMS

    I AM SURE THAT SOME OF YOU COULD PROVIDE EXAMPLES TO
ILLUSTRATE THE NEW OPPORTUNITIES FOR ADAPTABLE, RELIABLE
SYSTEMS. SUCH SYSTEMS COULD PROVIDE SIGNIFICANT NEW AND
ENHANCED CAPABILITIES, BUT WILL REQUIRE MUCH GREATER QUANTITIES
OF MORE COMPLEX SOFTWARE. EFFORTS TO SEIZE SUCH OPPORTUNITIES
USING CLASSICAL SOFTWARE PRACTICES WILL BE VERY EXPENSIVE, IF
SUCCESSFUL AT ALL. WE NEED UNUSUAL EFFORTS TO FIND WAYS TO
BUILD BETTER SOFTWARE AT MUCH LOWER COST. THAT IS THE MISSION
OF STARS. NEXT I WANT TO OUTLINE BRIEFLY WHAT STARS WILL DO.

REUSABLE-SOFTWARE SUPPORT ENVIRONMENTS (WHAT STARS WILL DO)

SUPPORT ELEMENTS
(HOW)

LIFE-CYCLE PHASES
(WHAT)

PROJECT MANAGEMENT
(WHO)

ENVIRONMENT
CUBE
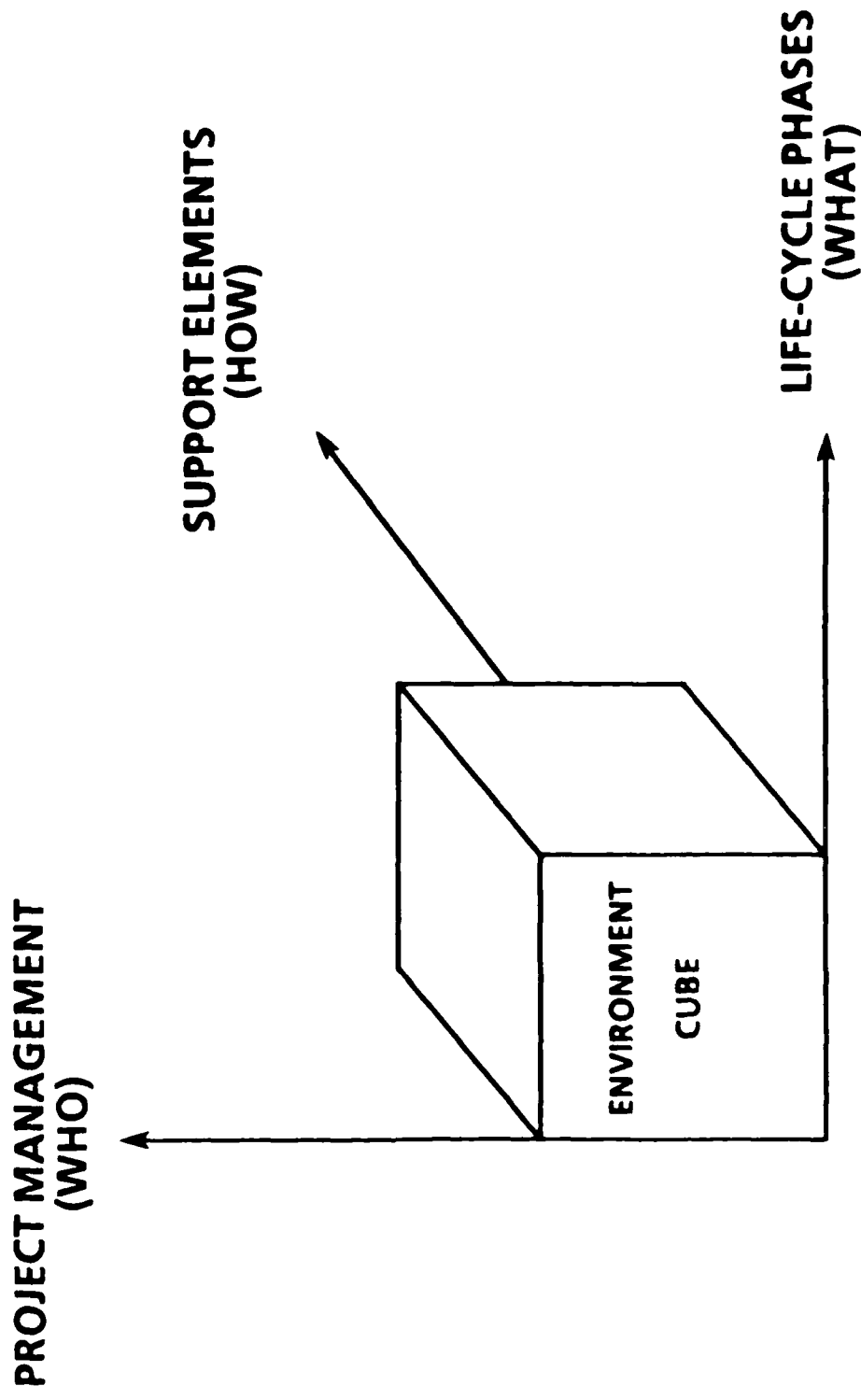
SLIDE 5   WHAT STARS WILL DO

TADAY PRODUCTIVITY FOR LARGE DoD EMBEDDED AND MISSION
CRITICAL SYSTEMS IS ALMOST THE SAME AS 15 YEARS AGO - ONLY A FEW
PERCENT BETTER. THE GOAL OF STARS IS TO DEVELOP A REUSABLE-
SOFTWARE TECHNOLOGY AND TO DEMONSTRATE BY WORKED EXAMPLES THE
FEASIBILITY OF INCREASING PRODUCTIVITY BY AT LEAST A FACTOR OF
10 IN LARGE DoD SYSTEMS.

STARS WILL BUILD SOFTWARE ENGINEERING ENVIRONMENTS TO
SUPPORT THE APPLICATION OF A REUSABLE-SOFTWARE TECHNOLOGY TO
VERY LARGE, SOFTWARE INTENSIVE DoD SYSTEMS -- THE KINDS OF
SYSTEMS THAT HAVE HISTORICALLY REQUIRED HUNDREDS OF SOFTWARE
ENGINEERS FOR SEVERAL YEARS.

SUCH SOFTWARE ENGINEERING ENVIRONMENTS INCLUDE SEVERAL
DIMENSIONS: (1) PROJECT MANAGEMENT DEALS WITH THE DIMENSION OF
"WHO" DOES "WHAT" -- IT IS THE ASSIGNMENT OF FUNCTIONAL
RESPONSIBILITIES TO SPECIFIC GROUPS OF PEOPLE; (2) SOFTWARE
LIFE-CYCLE PHASES DEAL WITH THE DIMENSION OF "WHAT" NEEDS TO BE
DONE -- IT IS THE BREAKDOWN OF THE TOTAL SOFTWARE TASK INTO
SPECIFIC WORK UNITS; AND (3) SUPPORT ELEMENTS DEAL WITH THE
DIMENSION OF "HOW" TASKS WILL BE ACCOMPLISHED -- IT OFTEN
INCLUDES POLICIES, PROCEDURES, METHODS AND TOOLS. AN
ENVIRONMENT IN THE BROAD SENSE INCLUDES ALL OF THESE DIMENSIONS.

MANY OF US WHO DEVELOP SOFTWARE HAVE STRUGGLED TO DEFINE AND
IMPLEMENT ELEMENTS OF THE "WHO-WHAT-HOW" ENVIRONMENT CUBE. NO
GROUP HAS YET ACHIEVED CLOSURE ON A MINIMAL, SUFFICIENT AND
SELF-CONSISTENT SET OF ELEMENTS. STARTING WITH THE SUCCESSES OF
Ada, STARS WILL TO BUILD A SUFFICIENT AND CONSISTENT ENVIRONMENT
FOR REUSABLE-SOFTWARE ENGINEERING.

STARS VISION OF THE 1990's

- **TAILORABLE ENVIRONMENTS**

- **A SERVICE MARKET**

SLIDE 6: STARS VISION OF THE 1990's

STARS HAS A VISION OF THE 1990's. THE 1980's HAVE BEEN
CHARACTERIZED BY DRAMATIC CHANGES. THE SWEEPING INTRODUCTION OF
THE PERSONAL COMPUTER, THE MASS PRODUCTION OF LOW-COST, POWERFUL
COMMODITY SOFTWARE, AND THE EMERGENCE OF THIRD-PARTY SOFTWARE
MARKETING ORGANIZATIONS REPRESENT POWERFUL MARKET FORCES TO
WHICH NO ORGANIZATION IS IMMUNE. WHILE THESE FORCES WILL
UNDOUBTEDLY CONTINUE, STARS ENVISIONS AN ADAPTABLE SOFTWARE
TECHNOLOGY THAT WILL BE ACCOMPANIED BY THE EMERGENCE OF A NEW
SOFTWARE SERVICE MARKET FORCE. STARS WILL SEEK TO RIDE THAT NEW
FORCE INTO THE 1990's. LETS EXPLAIN. THE STARS VISION OF THE
FUTURE ASSUMES THAT A SOFTWARE TECHNOLOGY CAPABLE OF SUPPORTING
ADAPTABLE, RELIABLE SYSTEMS SHOULD ALSO BE ABLE TO PROVIDE
ADAPTABLE, RELIABLE SOFTWARE ENGINEERING ENVIRONMENTS --
ENVIRONMENTS THAT COULD BE TAILORED IN DELIBERATE, CONTROLLED
WAYS ON TIME SCALES THAT ARE VERY SHORT BY TODAY'S STANDARDS.

TODAY, ALMOST EVERY MAJOR DoD PROGRAM SPENDS SIGNIFICANT
START-UP TIME AND MONEY TO BUILD AN ENVIRONMENT. STARS
ADVOCATES THE CONCEPT THAT NO SINGLE, UNIVERSAL, MILITARY-
STANDARD ENVIRONMENT COULD EVER BE DEVELOPED AND DIRECTED ON ALL
DoD PROGRAMS WITHOUT HUGE PENALTIES. FURTHER, STARS ASSUMES
THAT THE REUSABLE-SOFTWARE TECHNOLOGY IT SEEKS TO FOSTER FOR
PRODUCTIVITY REASONS WILL ALSO PROVIDE TAILORABLE, ENVIRONMENTS.
STARS SHOULD BE THE FIRST TO PRACTICE THE TECHNOLOGY IT
PREACHES.

STARS WILL BUILD ENVIRONMENTS, NOT TO DELIVER A SINGLE DoD
COMMODITY SOFTWARE SOLUTION, BUT RATHER TO ESTABLISH A SERVICE.
STARS CAPITAL INVESTMENT WILL ESTABLISH SEVERAL SOURCES CAPABLE
OF TAILORING, DELIVERING AND SUPPORTING SOFTWARE ENVIRONMENTS --
ENVIRONMENTS THAT CAN BE SPECIALIZED TO THE UNIQUE NEEDS OF A
PARTICULAR PROGRAM ON VERY SHORT TIME SCALES. TOWARD THE END OF
THE FIVE YEAR PROGRAM, AFTER WE AND INDUSTRY HAVE A BETTER
UNDERSTANDING OF THE TAILORABLE ENVIRONMENT CAPABILITIES, WE
WILL DECIDE HOW FUTURE COMMERCIAL AND DoD SALES SHOULD BE
STRUCTURED TO BEST BENEFIT THE SERVICE SYSTEM DEVELOPMENT
ORGANIZATIONS.

SLIDE 7: STARS STRATEGY

THE Ada LANGUAGE WILL BE USED EXCLUSIVELY BY STARS.
PRELIMINARY DATA SUGGESTS THAT Ada ITSELF WILL CONTRIBUTE TO
PRODUCTIVITY INCREASES IN TWO IMPORTANT WAYS. FIRST, Ada
FEATURES WILL RESULT IN LOWER DEVELOPMENT AND MAINTENANCE COSTS.
SECOND, FOR LARGE SYSTEMS, Ada WILL PROVIDE THE SAME FUNCTIONAL
CAPABILITY IN FEWER LINES OF SOURCE CODE THAN OTHER GENERALLY
USED DoD LANGUAGES. THOSE TWO FACTORS PROMISE SIGNIFICANT
PRODUCTIVITY INCREASES BY THEMSELVES. BUT THAT IS NOT STARS.
THAT IS Ada.

A REUSABLE-SOFTWARE TECHNOLOGY IS THE NEXT GREATEST
OPPORTUNITY FOR PRODUCTIVITY INCREASES. WE BELIEVE THAT REUSE
CAN RESULT IN CONTRIBUTIONS TO PRODUCTIVITY THAT ARE GREATER
THAN THOSE ACHIEVED BY THE Ada LANGUAGE ITSELF. Ada HAS
PROGRAMMING AND DESIGN FEATURES THAT WILL FACILITATE REUSE. A
REUSABLE TECHNOLOGY ALSO REQUIRES A CRITICAL MASS OF WIDELY
ACCESSIBLE PARTS WITH WELL DEFINED INTERFACE STANDARDS. STARS
WILL SPONSOR REPOSITORY TECHNOLOGY TO IMPROVE ACCESSIBILITY TO
REUSABLE PARTS.

STARS ENVIRONMENTS WILL BE INTEGRATED FROM REUSABLE PARTS
AND WILL BE BASED ON OPEN-ENDED FRAMEWORKS TO FACILITATE ADDING,
DELETING AND CHANGING METHODS AND TOOLS. THE COMPUTER AIDED
METHODS AND TOOLS WILL PROVIDE ANOTHER MAJOR SOURCE OF
PRODUCTIVITY. STARS WILL BE VERY SELECTIVE IN CHOOSING METHODS

AND TOOLS. ONLY THOSE SUPPORTING REUSABLE-Ada SOFTWARE
ENGINEERING WILL BE FUNDED BY STARS.

STARS WILL APPLY EMERGING REUSABLE-SOFTWARE TECHNOLOGY TO
SELECTED EMBEDDED AND MISSION CRITICAL APPLICATIONS USING
CONTROLLED "SHOULD COST" PROJECTS TO DEMONSTRATE PRODUCTIVITY
BENEFITS.

FINALLY, STARS WILL EMPLOY A NEW STRATEGY FOR DEALING WITH
HIGH RISK SOFTWARE AREAS. STARS WILL REQUIRE IDENTIFICATION OF
HIGH RISK ISSUES FOR RESOLUTION THROUGH PRE-PROTOTYPE ACTIVITIES
BEFORE DEVELOPING DETAILED SPECIFICATION.

STARS BACKBONE PLAN

- **YEAR 1**
  - CRITICAL MASS OF PARTS
  - ENVIRONMENT BASELINE
  - REUSABILITY METHODS STRATEGY

- **YEAR 2**
  - ADAPT PARTS TO STANDARD INTERFACES
  - VIRTUALIZE FRAMEWORK INTERFACES
  - PORT FRAMEWORK TO OTHER HARDWARES
  - DEVELOP TOOLS AND CM AIDS

- **YEAR 3**
  - APPLY PARTS TO MAJOR MCCR PROJECTS
  - DELIVER PROTOTYPE DISTRIBUTED, NETWORKED, HETEROGENEOUS-HDWR-BASED FRAMEWORKS
  - EXTEND COMPUTER AIDED PROCESSES

- **YEAR 4**
  - INTEGRATE AND EXTEND TOOLS AND METHODS
  - DEVELOP EDUCATION AND TRAINING
  - REFINE TAYLORING PROCESSES
  - NEGOTIATE COMMERCIAL AND DoD SALES TERMS

- **YEAR 5**
  - DELIVER FULLY OPERATIONAL ENVIRONMENTS
  - APPLY TO MAJOR PROGRAMS
  - PLAN COMMERCIAL AND DoD SALES

SLIDE 8:   STARS PLAN

THE DETAILS OF THE STARS DEVELOPMENT PLAN WILL BE WORKED OUT
WITH THE STARS LEAD CONTRACTORS WHO WILL PROVIDE THE BACKBONE
AND TECHNICAL RESEARCH LEADERSHIP FOR THE PROGRAM. ENVIRONMENT
DEVELOPMENT AND USE WILL PROVIDE THE TECHNICAL FOCUS FOR ALL
PROGRAM ACTIVITIES. THE ENVIRONMENT WILL BE INTEGRATED FROM
REUSABLE PARTS -- SOME OF WHICH MAY HAVE TO BE ADAPTED. THAT
ADAPTATION PROCESS WILL GIVE THE LEAD CONTRACTORS HANDS ON
EXPERIENCE WITH THE NEW TECHNOLOGY THE ENVIRONMENTS WILL
SUPPORT. STARS WILL SEEK TO EVOLVE THE ENVIRONMENTS. WE EXPECT
THAT FROM DAY ONE, STARS WILL HAVE EXISTING WORKABLE
ENVIRONMENTS. WE ALSO EXPECT TO SEE, CONTINUING THROUGHOUT THE
PROGRAM, A REGULAR ENHANCEMENT OF THE CAPABILITIES AND
COMPLETENESS OF THE ENVIRONMENTS.

TO GIVE SOME NOTION OF EVOLUTION, I HAVE LISTED A
PROGRESSION OF CAPABILITY ENHANCEMENTS THAT WE ENVISION IN THE
ENVIRONMENTS AREA. MANY MORE DETAILS ARE PROVIDED IN THE STARS
PLANS. LETS GET ON TO INFORMATION SOURCES AND BUSINESS
OPPORTUNITIES.

STARS INFORMATION SOURCES

- **DEFENSE TECHNICAL INFORMATION CENTER**

  - STARS PLANS (A173855 & A173856)

  - WORK UNIT SUMMARIES

- **STARS TECHNICAL INFORMATION EXCHANGE**

  - (301) 731-8896

  - ELECTRONIC BULLETIN BOARD

- **STARS REPOSITORY**

SLIDE 9: STARS INFORMATION SOURCES

IN ADDITION TO COMMERCE BUSINESS DAILY NOTICES, THERE ARE
SEVERAL WAYS THAT STARS WILL KEEP INDUSTRY INFORMED.

FIRST, THE TECHNICAL AND MANAGEMENT PLANS HAVE BEEN APPROVED FOR
UNLIMITED DISTRIBUTION. THE DOCUMENTS HAVE BEEN PLACED IN THE
DEFENSE TECHNICAL INFORMATION CENTER (DTIC) AND MAY BE PURCHASED
AT THE PREVAILING RATES. STARS WILL ALSO USE THE DD FORM 1498,
"RESEARCH AND TECHNOLOGY WORK UNIT SUMMARY" TO DOCUMENT PROGRESS
ON ALL STARS CONTRACTS, SUBCONTRACTS AND GOVERNMENT INTERNAL
PROJECTS. WORK UNIT SUMMARIES WILL ALLOW GOVERNMENT AND
INDUSTRY TO TRACK THE TOTAL PROGRAM PROGRESS.

SECOND, THE JOINT PROGRAM OFFICE IS ESTABLISHING A STARS
TECHNICAL INFORMATION EXCHANGE SIMILAR TO THE Ada INFORMATION
CLEARING HOUSE. A NUMBER OF SERVICES INCLUDING ON-LINE NETWORK
ACCESSIBLE INFORMATION FILES ARE PLANNED. THE STARS TECHNICAL
INFORMATION EXCHANGE WILL BEGIN OPERATION THROUGH TELEPHONE
NUMBER (301) 731-8896 ON DECEMBER FIRST. WE ALSO PLAN TO HAVE
AN ELECTRONIC BULLETIN BOARD. INSTRUCTIONS WILL BE PROVIDED
THROUGH THE STARS-TIE.

MOST IMPORTANTLY, STARS WILL ESTABLISH AND USE AN ON-LINE,
ELECTRONIC, NETWORK-ACCESSIBLE SOFTWARE REPOSITORY TO SUPPORT
RAPID SHARING OF REUSABLE SOFTWARE COMPONENTS.

STARS DEVELOPMENT ROADMAP

	FY87									FY88				FY89			
	O	N	D	J	F	M	A	M	J	J	A	S	1	2	3	4	1	2	3	4

FOUNDATIONS
- CBD ANNOUNCEMENT
  - INDUSTRY BRIEF
    - 1ST CUT-OFF
      - 1ST AWARDS

LEAD CONTRACTS
- CBD ANNOUNCEMENT
- CBD ANNOUNCEMENT OF SUBCONTRACTING OPPORTUNITIES
- RFP
  - SOURCE SELECTION
    - AWARD LEAD CONTRACTS
      - SUBCONTRACT AWARDS
        - DOWN SELECT

SHADOW
- SELECTION
- CONTRACT MODIFICATIONS

OTHER

STARS JPO AND SERVICE RESEARCH

11/18/86 Brf 33 Sld 10

SLIDE 10: DEVELOPMENT ROADMAP

NEXT I WANT TO OUTLINE THE FUTURE STARS BUSINESS
OPPORTUNITIES WE SEE WITH STARS PROGRAM.

THE INFORMATION PRESENTED IS PROVIDED TO ASSIST YOU IN YOUR
PLANNING. THE INFORMATION IS BASED ON THE BEST ESTIMATES
AVAILABLE FROM THE PROGRAM OFFICE TODAY; IS SUBJECT TO
MODIFICATION; AND, IS IN NO WAY BINDING ON THE GOVERNMENT. MORE
SPECIFIC INFORMATION WILL BE FURNISHED WHEN ACQUISITIONS ARE
ADVERTIZED IN THE COMMERCE BUSINESS DAILY.

IN DECEMBER WE HOPE TO ANNOUNCE A STARS BRIEFING FOR
INDUSTRY TO BE HELD IN JANUARY. THE BRIEFING WILL BE A WIDE-
AGENCY-ANNOUNCEMENT, PROBABLY THROUGH THE OFFICE OF NAVAL
RESEARCH, ANNOUNCING THE NEED FOR DEVELOPMENT OF COMMON Ada
FOUNDATION CAPABILITIES -- REUSABLE PARTS. THE WORK IS
DESCRIBED IN APPENDIX A TO THE STARS TECHNICAL PLAN. THERE WILL
BE STAGGERED PROPOSAL CUT-OFF DATES FOR DIFFERENT CLASSES OF
PARTS. WE HOPE THAT SOME AWARDS COULD BE MADE AS EARLY AS
APRIL. THIS EFFORT WILL RESULT IN A NUMBER OF SMALL BUT
IMPORTANT CONTRACTS.

THE SECOND OPPORTUNITY DEALS WITH THE STARS LEAD CONTRACTS.
THE ACQUISITION MODEL WILL BE FULL AND OPEN COMPETITION IN
RESPONSE TO AN RFP TO BE ISSUED IN JANUARY 1987. MULTIPLE
AWARDS ARE CONTEMPLATED WITH A POSSIBLE DOWN SELECT IN FY88.

INTERESTED SOURCES SHOULD PLAN ON PROPOSAL PREPARATION IN THE
JANUARY-FEBRUARY TIME FRAME.

THE LEAD CONTRACTORS WILL BE REQUIRED TO SUBCONTRACT ABOUT
60 PERCENT OF THE TECHNOLOGY DEVELOPMENT WORK. THAT REQUIREMENT
SHOULD RESULT IN A CONTINUING OPPORTUNITY FOR WIDE PARTICIPATION
IN THE PROGRAM.

THE SCHEDULE AND MORE DETAILS WILL BE FORTHCOMING. THE LEAD
CONTRACTS ARE CURRENTLY PLANNED THROUGH THE DEFENSE SUPPLY
SERVICES WASHINGTON CONTRACTING OFFICE, AT THE PENTAGON.

STARS WILL FUND A FEW SHADOW PROJECTS. THESE ARE "SHOULD
COST" APPLICATIONS OF EMERGING STARS TECHNOLOGY TO SELECTED
MISSION CRITICAL PROGRAMS. THE SOFTWARE ENGINEERING INSTITUTE
WILL MEASURE AND DOCUMENT THE RESULTS. A PAMPHLET ON SHADOW
PROJECTS IS NOW BEING JOINTLY PREPARED BY STARS AND SEI AND WILL
BE ANNOUNCED ON THE STARS INFORMATION EXCHANGE.

SOFTWARE

TECHNOLOGY FOR

ADAPTABLE,

RELIABLE

SYSTEMS

SLIDE 11:   CONCLUSION

A NEW STARS PROGRAM HAS BEEN DEVELOPED OVER THE PAST NINE
MONTHS.   THE PROGRAM HAS A SPECIFIC VISION OF THE FUTURE AND A
WELL DEFINED PATH TO GET THERE.   THE PROGRAM WILL EXPLOIT NEW
OPPORTUNITIES MADE POSSIBLE BY Ada.   THE NEW STARS PROGRAM IS
POSTURED MAKE SIGNIFICANT CONTRIBUTIONS TO THE FUTURE WAR
FIGHTING CAPABILITY OF THE UNITED STATES.   WE LOOK FORWARD TO
YOUR PARTICIPATION AS SUPPORTING CONTRACTORS IN THE NEAR TERM.

END
3-87
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